

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2005/000006

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: A61M 16/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

SEE ELECTRONIC DATABASES CONSULTED

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: A61M 16/00, apnea, ventilate, respirate, sleep disorder, osa, sdb, pressure, adjust, alter, vary, vari, modify, change, regulate, control, inspirate, expirate, inhale, exhale, breath, transition, strart, begin, onset, crossover, swing, drop, fall, decrease, reduce, exhale, expirate, breath out.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0425092 B1 (RESPIRONICS INC.) 16 August 1995 Entire document	1-32
A	WO 2002002169 A1 (COMPUMEDIC'S SLEEP PTY. LTD.) 10 January 2002 Entire document	1-32
A	WO 2001000267 A1 (CARADYNE (R&D) LIMITED) 4 January 2001. Entire document	1-32
A	US 6622726 B1 (DU) 23 September 2003 Entire document	1-32

Further documents are listed in the continuation of Box C See patent family annex

* "A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 22 February 2005	Date of mailing of the international search report 11 MAR 2005
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer  MATTHEW FORWARD Telephone No : (02) 6283 2606

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2004067070 A 1 (SOCIETE D'APPLICATIONS INDUSTRIELLES MEDICALES ET ELECTRONIQUES (SAIME)) 12 August 2004 Abstract, Fig. 4,6, page 1 lines 3-12, page 3 lines 5- page 6 line 16, page 7 line 3 –page 16 line 19page 18 lines 1-31.	1-32
P,X	FR 2850284 A1 (SOCIETE D'APPLICATIONS INDUSTRIELLES MEDICALES ET ELECTRONIQUES (SAIME) 30 July 2004 Entire document	1-32

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

SEE EXTRA SHEET

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:1-32

Remark on Protest

The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: III

The claims do not relate to one invention only (or to a group of inventions so linked as to form a single general inventive concept). In assessing whether there is more than one invention claimed, I have given consideration to those features which can be considered to be "special technical features". These are features that potentially distinguish the claimed combination of features from the prior art. Where different claims have different special technical features they define different inventions. I have found claims having different special technical features as follows:

- (1) Claims 1-32. It is considered that – controlling the patient interface pressure to rapidly drop at the start of expiration by a specific expiratory relief pressure - comprises a first special technical feature.
- (2) Claims 33-41. It is considered that — calculating an expected duration of expiration- comprises a second special technical feature.
- (3) Claims 42-46. It is considered that – determining the duration of an expiratory pause from the duration of the longest contiguous period ending at the end of expiration such that respiratory flow is not outside a set of values representing small flow- comprises a third special technical feature.
- (4) Claims 47-48. It is considered that – longest contiguous period ending at the end of expiration - comprises a fourth special technical feature.
- (5) Claims 49-53. It is considered that – determining the expiratory pause fraction of the breath "k" from the fuzzy extent to which the flow signal is indicative of an expiratory pause from said flow - comprises a fifth special technical feature.

Since these groups of claims do not share any of the special technical features identified, a technical relationship between the inventions does not exist. Accordingly the claims do not relate to one invention or to a single inventive concept, a priori.

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Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member			
EP	0425092	AU	14276/99	AU	29268/92	AU
		AU	30679/95	AU	38508/93	AU
		AU	62221/90	AU	98118/98	CA
		CA	2122590	CA	2162981	EP
		EP	0714670	EP	1004325	EP
		JP	3222963	JP	8257016	US
		US	5239995	US	5313937	US
		US	5492113	US	5551418	US
		US	5803065	US	5823187	US
		US	5904141	US	5970975	US
		US	6305374	US	6427689	US
		US	6629527	US	2002023645	US
		US	2004016433	WO	9308857	
WO	0202169	AU	35258/01	CA	2414578	EP
		US	6349724			1311315
WO	0100267	AU	54225/00	EP	1194179	IE
		US	6647984			20000513
US	6622726	AU	13221/02	EP	1326670	WO
FR	2850284	WO	2004067070			0232488

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX